**MATHEMATICS LESSON PLAN**

**GRADE 9**

**TERM 1: January – March**

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| PROVINCE: |  |
| DISTRICT: |  |
| SCHOOL: |  |
| TEACHER’S NAME: |  |
| DATE: |  |
| DURATION: | 1 Hour |

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| 1. **TOPIC: INTEGERS: Solving problems(Lesson 4)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to solve problems in context involving multiple operations with integers** |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook 1, Sasol-Inzalo Book 1 |
| 1. **PRIOR KNOWLEDGE:** | * calculations with integers * properties of integers |
| 1. **REVIEW AND CORRECTION OF HOMEWORK** (suggested time: 10 minutes)   Homework provides an opportunity for teachers to track learners’ progress in the mastery of mathematics concepts and to identify the problematic areas which require immediate attention. Therefore, it is recommended that you place more focus on addressing errors from learner responses that may later become misconceptions. | |
| 1. **INTRODUCTION** (Suggested time: 10 Minutes) | |
| When it is very cold and the temperature is below freezing, negative numbers are used to indicate the temperature. If a person owes money to the bank, the person is in debts and the account is overdrawn. These debts are shown as negative numbers | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  **(Learners are expected to:)** |
| **Solving Problems with integers**  Group learners in pairs. Give them activities like the ones below and allow them to work out the answer.  **Example 1**:   1. Miss Sibongile had R3 875 in her bank account. She issued a cheque for R2 850 and then another one for R1 980. What is the balance of her account now?   **Solution**    She has overdrawn her account  **Example 2**:  Ask learners to study the table. Group learners into small groups. Ask them to find out and define what the term average mean is?  Write the following activity on the board and ask learners to answer the questions. | engage in pairs, discuss to determine the answers of the activities.  study the table and answer the questions based on the table |
| The table shows the minimum and maximum average daily temperatures of six towns in South Africa on 1 July 2012   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Town | Heidelburg | Fraserburg | Sutherland | Molteno | Ficksburg | Belfast | | Minimum temp ( |  |  |  |  |  |  | | Maximum temp ) |  |  |  |  |  |  |  1. Which town has the biggest difference between its maximum and minimum temperature? 2. Calculate the difference between the overall highest and lowest average temperature?   Solution:   1. Heidelburg has the highest |  |
| Example 3:  Ask learners to do the following activity individually:   1. The list shows the minimum temperatures for Upington over   7 days. Calculate the average minimum temperature in Upington for the week.  Solution: =  = | respond to questions individually, calculate and perform calculation with integers |
| Example 4:  Group learners in small groups. Write the following activity on the board and ask learners to explain the term “Fahrenheit” in their group.  The formula is used to convert temperatures from degrees Fahrenheit to degrees Celsius. Convert the following to degrees Celsius. |  |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| Calculate the following without using a calculator   1. On the cold winter’s day the temperature was in Sutherland, which is the coldest town in South Africa. What is the night temperature if the temperature dropped by during the night? 2. Palesa is on diet. The table shows her progress after weeks.  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | Change in weight |  |  |  |  |  |  |  |  |  1. Did Palesa lose any weight over the weeks. If “yes” how much weight did she lose? 2. Calculate Palesa’s present weight if she weighed when she started on the diet.   **Solution**:   * 1. . So yes |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. **Emphasize that:**  * when learners are solving problems in context, they need to read the problem carefully to understand the context in which it is set. * learners must always interpret their answers to see if they make sense in the context in which they are working  1. **Homework:**   The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore Homework should be purposeful and the principle of ‘Less is more’ is recommended, i.e. give learners few high quality activities that address variety of skills than many activities that do not enhance learners’ conceptual understanding. Carefully select appropriate activities from the Sasol-Inzalo books, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Sasol-Inzalo Book 1 p 38 no. 2 (f) to (j) and no. 3** |